

**ABSTRACT**

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An apparatus for producing high-purity standard particles produces nanometer-sized high-purity standard particles of monodispersive uniform structure efficiently, with the abatement of contamination and damage. The apparatus includes a particle generation chamber, a particle classification chamber and a particle collecting chamber. The particle generation chamber excites a semiconductor target with pulse laser beam under a low-pressure rare gas ambient so as to detach and eject materials from the target into the ambient gas, in which those materials are condensed and grow into high-purity particles. The particle classification chamber subjects the high-purity particles as generated to classification, and the particles collecting chamber collects high-purity standard particles as classified onto a substrate.

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